

REMARKS

Applicants gratefully acknowledge the Examiner's allowance of Claims 3-5 and 12-17 in the Advisory Action mailed May 4, 2005. By this amendment, claims 1 and 6-11 have been canceled to place the application in immediate condition for allowance, and claims 12-17 have been presented with the amendments filed April 7, 2005. The application now includes claims 3-5 and 12-17.

Claim 12 has been amended by addition of the phrase "on a page in the form of a strip of material having a predetermined location and predetermined orientation" (Claim 12, lines 3-4), which tracks the language of allowed Claim 3. (Claim 3, lines 12-13) Claim 17 has been amended by adding the phrase "a strip of material containing" (Claim 17, line 2) and "at a predetermined location and predetermined orientation on a page of said document" (Claim 17, lines 2-3), which tracks the language of allowed Claim 3. In view of claims 12 and 17 adopting language similar to allowed claim 3, claims 12 and 17 as well as dependent claims 13-16, should now be in *prima facie* condition for allowance.

In view of the above, no new issues are presented; therefore, consideration and immediate allowance of claims 3-5 and 12-17 is in order.

The Claimed Invention

The claimed invention provides a method and apparatus to improve the quality of copies of pages of a book, journal, or other bound document, produced by conventional imaging equipment. According to the claimed invention, pages of books may be copied without distortion of the kind that may occur as a result of curvature of the page near the book binding or the distortion in a copied page is corrected using the spacing of reference markings 34 on strips of material 33 applied to the top and bottom edges of a page before copying. The tape is preferably transparent and rather narrow and easily attached to a page to be copied. The first step in the distortion correction procedure is to locate the

bars at the top and bottom of the page. A pattern recognition unit 420 locates the pattern of pixels corresponding to the strip in the bitmap image stored in memory 410. The distortion of the spacing between the imaged bars is computed based on the known distance between the equidistant bars. The computed distortion of the spacing is then input to a distortion correction algorithm. Once the amount of skew is determined in the horizontal and vertical directions, distortion correction processor 440 modifies the bitmap image in memory 410 based on the amount of skew computed by skew amount processor 430 to correct the distortion in the binding area. The output of the distortion correction algorithm generates a corrected image. The distortion correction processor 440 may also optionally delete the bars so that they are not printed in the copy. The corrected image is finally copied.

The claimed invention addresses various problems, including but not limited to problems relating to ease of use, which arise in connection with conventional approaches to distortion correction. Such conventional approaches require complicated specialized hardware equipment, such as light projectors and height measurement devices, whereas the claimed invention dispenses with such complicated specialized hardware equipment by providing an approach that employs conventional equipment such as copiers and scanners, supplemented by additional software. The claimed invention is able to do so because it relies on physically printing or placing reference patterns onto the document to be copied, so that reference markings may be acquired using conventional imaging equipment.

Claims 1, 6, 8-14, and 16-17 have been rejected under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 5,760,925 to Saund et al., while Claims 2, 7, and 15 have been rejected under 35 U.S.C. § 103(a) as being obvious over Saund et al. Applicants traverse as discussed below.

Claims 12-17 have been amended to incorporate the features of allowed claim 3. Therefore, each of the claims should be deemed new and unobvious for the same reasons determined earlier in the prosecution of this case.

Conclusion

In view of the foregoing, it is respectfully requested that the application be reconsidered, that Claims 3-5 and 12-17 be allowed, and that the application be passed to issue.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.

A provisional petition is hereby made for any extension of time necessary for the continued pendency during the life of this application. Please charge any fees for such provisional petition and any deficiencies in fees and credit any overpayment of fees to Deposit Account 50-0510 (IBM-Yorktown).

Respectfully submitted,



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